

**Before the
Federal Communications Commission
Washington, D.C. 20554**

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| Utilities Telecom Council and Winchester |) | |
| Cator, LLC |) | |
| |) | |
| Petition for Rulemaking to Establish Rules |) | RM-11429 |
| Governing Critical Infrastructure Industry |) | |
| Fixed Service Operations in the 14.0–14.5 |) | |
| GHz Band |) | |

June 26, 2008

Comments by the Satelites Mexicanos, S.A. DE C.V. (SATMEX)

BACKGROUND

The Mexican satellite service provider Satelites Mexicanos, S.A. DE C.V. (SATMEX), who own and operate three satellites Solidaridad 2, Satmex 5 and Satmex 6 with ALSAT-designated earth stations to provide Fixed Satellite Services (FSS) in the United States of America for full-time and occasional services in both C and Ku bands, submits the present document to the above captioned petition, pursuant to Section 1.405(a) of the Commission's Rules, 47 C.F.R. § 1.405(a). In its petition, the Utilities Telecom Council ("UTC") requests that "the Commission commence a proceeding to amend Parts 2 and 101 to permit shared, secondary terrestrial fixed service use of the 14.0–14.5 GHz band for critical infrastructure industry communications". UTC invites the Commission to commence proceedings to establish rules for secondary use of the 14.0–14.5 GHz band by fixed point-to-point, point to multipoint, and temporary fixed stations. These rules would amongst other things put measures in place to ensure that "the proposed FS services do not interfere with incumbent operations in the band" and that frequency coordination is performed in respect to incumbent operations in the bands.

As explained below, SATMEX opposes the UTC petition and urges the Commission NOT to allow secondary terrestrial use of the 14-14.5 GHz band. The UTC fails to show compellingly that the stated that incumbent operations in the band will not be harmfully interfered with. It provides a flawed analysis suggesting that millions of terminals can be operated without a problem. However, analysis conducted within the satellite industry indicates that such use will cause unacceptable levels of interference into GSO FSS operations. Furthermore such use will expose the UTC terminals to interference that will be incompatible with the critical nature of the services that are intended in the proposed new secondary terrestrial allocation.

DISCUSSION

UTC and its Petition

- UTC's Petition requests a new secondary, fixed service allocation in the 14.0-14.5 GHz band, (a secondary allocation to FS already exists in the band 14.4-14.5 GHz but is limited to government use).



- UTC states that critical infrastructure industries (CII) would use this spectrum, especially during emergencies.
- The Petition further proposes that the newly-formed Winchester company would be the spectrum licensee, serve as a spectrum coordinator for CII users and lease the spectrum for commercial uses, such as cellular backhaul, except when preempted by CII.

The 14.0-14.5 GHz Band Is Fully Utilized Satellite Spectrum

- The 14.0-14.5 GHz band is allocated on a primary basis for Fixed Satellite Service (Earth-to-space) uplinks. Its estimates that there are a few hundred thousand licensed VSAT networks plus 1500 individual earth station licenses in this band.
- There is also a secondary allocation for Mobile Satellite Service (Earth-to-space) uplinks in the 14.0-14.5 GHz band. The FCC has adopted service rules for ESVs and has pending proceedings to adopt service rules for AMSS and for the operation of vehicle-mounted earth stations (VMES). Even in the absence of rules, authorization for aircraft stations –Connexion, Arinc – have already been granted by the FCC.
- Space Research and Radionavigation services operate with secondary status in the 14.0-14.2 GHz band.
- The Government has fixed and mobile operations with secondary status in the upper 100 MHz from 14.4-14.5 GHz.

These existing and widespread satellite services are a vital part of U.S. public safety networks. They are used on a day-to-day basis by federal, state, and local governments, public safety agencies and commercial entities. During emergencies, satellites provide critical communications capabilities when terrestrial infrastructure is impaired.

UTC's PROPOSED USE OF THE 14.0-14.5 GHZ BAND WOULD CAUSE UNACCEPTABLE INTERFERENCE TO PRIMARY SATELLITE SERVICES.

UTC's Proposal Does Not Adequately Protect Primary FSS Uplinks.

- The allowance for interference into FSS uplinks considered in the Petitioner's technical report is inconsistent with the proposed secondary status. UTC's reliance on a $\Delta T/T$ of 6% as the interference threshold applies to co-primary, not secondary, transmissions as proposed here. Instead, ITU-R Recommendation S.1432 proposes 1% for all non-primary sources. For UTC, the impact should be a fraction of 1%.
- Ku-band satellites were not designed with the extra link margin required to absorb extra terrestrial source interference. This is unlike other bands where sharing between fixed services and FSS was known at the outset.
- Given that interference to FSS uplinks is caused by the aggregation of multiple terrestrial signals, it will be difficult to identify and shut down the interfering sources. Even if a reasonable ceiling for the number of terminals is determined, enforcing this upper limit is not practical. In the event of harmful interference, how would the Commission take action where there might be thousands of transmitters in the band?.

- Interference will be particularly difficult to remedy during emergencies, where transportable fixed uses are prevalent and present different interference issues and parameters. What would happen if such harmful interference came at a time of emergency during which satellite operators were providing critical emergency and first responder services, particularly in the same area?.
- Pointing errors by terrestrial transmitters (*i.e.*, failure to avoid the GSO arc by 5 degrees) will exacerbate interference and are much more likely to occur during emergencies when there is likely to be insufficient time to install equipment properly.

This anticipated satellite interference is wholly incompatible with UTC's proposed CII use

- UTC states that CII communications systems are a "vital part of the nation's homeland security infrastructure" and seeks an extremely high availability rate of 99.999%.
- Notwithstanding that satellite would be primary and terrestrial secondary, public policy issues would arise when both services cannot co-exist.
- For this reason, the FCC typically uses band segmentation to separate Fixed Service and FSS allocations when both are ubiquitous.
- Because interference undercuts the viability of UTC's proposed secondary service there is concern that UTC would seek an elevation to primary status.

CONCLUSION

SATMEX fully supports the goal to protect existing FSS operators from harmful interference from UTC communication terminals as the interference problem is steadily increasing. Satellite operators expend millions of dollars annually specifically related to the incidents of satellite interference and any future FSS networks need to consider their impact to the overall interference problem.

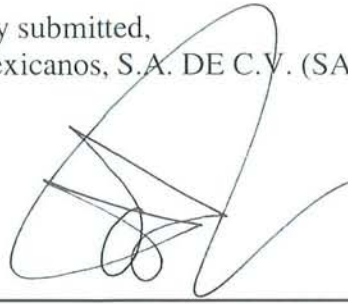
SATMEX supports the concept of ensuring a safe and reliable operation of critical communications systems and networks that enable "the safe, reliable and efficient delivery of essential water, gas, electric and other energy services to the public at large", to the extent that existing and future FSS services will not be subject to unacceptable increase in interference.

SATMEX evaluation of the UTC proposal indicate that use of 14-14.5 GHz band for use by their communication networks as proposed in the petition would subject commercial and critical FSS communications to unacceptable interference levels. On the other hand the UTC community will not necessarily achieve their intended purpose, as UTC communication operations in the 14-14.5 GHz would be unreliable as a result of interference from FSS and other sources.

Given these concerns, SATMEX respectfully urges the commission to deny UTC's petition for rulemaking.



Respectively submitted,
Satelites Mexicanos, S.A. DE C.V. (SATMEX)

A handwritten signature in black ink, consisting of a large, stylized 'A' followed by a series of loops and a long horizontal stroke extending to the right.

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